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EXAMINER

LUU, THANH X

ART UNIT

PAPER NUMBER

2878

DATE MAILED: 11/30/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/401,730

Applicant(s)

FEI ET AL.

Examiner

Thanh X Luu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

1. This Office Action is in response to amendments and remarks filed September 12, 2001. Claims 1-29 are currently pending.

Claim Objections

2. Claims 2-4, 6-17, 20, 21 and 23 are objected to because of the following informalities:

In claims 2-4, 6-17, 20 and 21, Applicant refers to a "securing device", however, there is no mention of a securing device in the independent claims.

In claim 8, "said connecting device" lacks proper antecedent basis. Applicant uses the terms "device for releasably connecting", "said device" and "said connecting device" to refer to the same device. Examiner recommends using consistent terminology.

In claim 23, Applicant switches from the use of "fiber" to "fibre." Examiner recommends using consistent terminology throughout the same claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 4, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Dambach et al. (U.S. Patent 4,812,003).

Regarding claims 1 and 2, Dambach et al. disclose (see Figures 1-3) a device for releasably connecting at least one optical fiber to an optical apparatus (not shown), where the optical apparatus comprises at least one photo-element (at the end of receiving fiber 14) mounted on a supporting element (inherent), the device including means for releasably connecting (20) the at least one optical fiber (12) to the at least one photo-element wherein at least part of the device or the cover is made from a transparent material (see column 3, lines 53-55) making a region of coupling (within 20) between the at least one optical fiber and the at least one photo-element externally visible.

Regarding claim 23, Dambach et al. disclose (see Figures 1-3) optical equipment comprising: an optical apparatus (not shown) comprising at least one photo-element (at the end of receiving fiber 14); at least one optical fiber (12), and a device (20) for releasably connecting the at least one optical fiber to a respective one of the at least one photo-element; wherein at least part of the releasably connecting device is made from a transparent material (see column 3, lines 52-55) in order to make a region of coupling between the at least one optical fiber and the at least one photo-element externally visible.

Regarding claims 4 and 24, Dambach et al. further disclose (see column 3, lines 52-55) using optical grade acrylic plastic or similar material. Acrylic plastic includes

such materials as claimed.

5. Claims 5-7, 9-11, 22 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamada et al. (U.S. Patent 4,986,625).

Regarding claims 5, 22 and 26, Yamada et al. disclose (see Figures 1, 2 and 4A-4C) a device for connecting at least one optical fiber to an optical apparatus, the apparatus comprising at least one photo-element (6), the optical fiber connectable to the photo-element and at least one supporting element (10) provided with at least one guide hole (13) for the optical fiber wherein the device comprises a slide (20) provided with at least one slot (the wide-mouth opening part of 22), the slide moveable between a first and second predetermined position, the second position being defined by stops (23), the slot in the first position (Figure 4B) of the slide being coaxial with the hole of the supporting element and freely housing the optical fiber, and the slot in the second position of the slide being out of alignment with the hole (Figure 4C) and exerting on the optical fiber a force which keeps the optical fiber secured in the hole. Yamada et al. further disclose the at least one photo-element mounted on the supporting element.

Regarding claims 6 and 7, Yamada et al. disclose (see Figures 11 and 13) the slide is provided with at least two slots and the optical apparatus is provided with at least two optical fibers.

Regarding claims 9-11, Yamada et al. further disclose (see Figures 4A-4C) the slot comprises a semi-circular portion having a radius greater than a radius of the optical fiber and the portion having a projecting arm or the slot is substantially C-shaped.

6. Claims 5, 8-10, 12 and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Welber et al. (U.S. Patent 4,605,280).

Regarding claims 5 and 26, Welber et al. disclose (see Figures) a device for securing at least one optical fiber to an optical apparatus, the apparatus comprising at least one photo-element (10), the optical fiber connectable to the photo-element and at least one supporting element (28) provided with at least one guide hole (38) for the optical fiber wherein the device comprises a slide (40, 58) provided with at least one slot (46, 62, 64), the slide moveable between a first and second predetermined position, the second position being defined by stops (when 66 and 68 hits 50), the slot in the first position of the slide being coaxial with the hole of the supporting element and freely housing the optical fiber, and the slot in the second position of the slide being out of alignment with the hole (see Figure 3) and exerting on the optical fiber a force which keeps the optical fiber secured in the hole.

Regarding claims 8 and 28, Welber et al. disclose (see Figure 2) a cover (26) provided with at least one hole (38) for the passage of the optical fiber, the cover provided with an enclosure (50, 32) capable of supporting the slide so that it is free to slide, and elastic means (82) in engagement with the slide to keep it in the second position.

Regarding claim 9, Welber et al. disclose (see Figure 2) the slot comprises a semi-circular portion (69) having a radius greater than the radius of the optical fiber.

Regarding claim 10, Welber et al. disclose (see Figure 2) the semi-circular portion of the slot has a projecting arm (66, 68).

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Regarding claim 12, Welber et al. disclose (see Figure 2) a notch (shown near numeral 60) which is capable of imparting elasticity to the arm.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 13-17, 19-21, 27 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Welber et al. in view of Kato (U.S. Patent 5,555,333).

Regarding claim 19, Welber et al. further disclose (see Figures) a spring (82) for biasing the slide towards the second position and a cover (26). Welber et al. do not disclose two optical fibers, two photo-elements, two holes or two slots. Kato discloses (see Figures) a connecting device having multiple photo-elements and multiple optical fibers. It would require only routine skill in the art and is a matter of design choice to provide a device for additional elements. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide for additional elements in the apparatus of Welber et al. in view of Kato to consolidate parts, reduce costs and increase the functionality of the connecting device.

Regarding claim 20, Welber et al. disclose (see Figure 2) the slot comprises a semi-circular portion (69) having a radius greater than the radius of the optical fiber, the semi-circular portion of the slot has a projecting arm (66, 68), a notch (near numeral 60)

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which is inherently capable of imparting elasticity to the arm. Welber et al. further disclose (see Figures) a V-shaped slot. However, the specific shape of the slot is a matter of design choice. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use a substantially C-shaped slot in the apparatus of Welber et al. in view of Kato to put less stress on the fiber and reduce wear on the fiber.

Regarding claims 13-17, 21, 27 and 29, Welber et al. further disclose (see Figures) the slide is provided with a pin (88) used for centering the spring. Welber et al. do not disclose the slide, cover and supporting element is made from a transparent material. Kato discloses (see Figures and column 15, lines 45-50) making the substrate (22) formed from transparent glass. Thus, Kato recognizes that by making material transparent, alignment of the elements would be easier. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to make the slide, the cover and the supporting element of Welber et al. in view of Kato in order to aid in aligning the elements and improve detection.

9. Claims 3, 18 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dambach et al.

Regarding claims 3, 18 and 25, Dambach et al. disclose (see Figures 1-3) a device for releasably connecting at least one optical fiber (12) to an optical apparatus (not shown), the apparatus comprising at least one photo-element (at the end of receiving fiber 14) mounted on a supporting element (inherent), the device including means for releasably connecting the at least one optical fiber to the at least one photo-

element, wherein the connecting device includes a transparent cover (20) making a region of coupling between the at least one optical fiber and the photo-element externally visible. Dambach et al. do not specifically disclose the supporting member made from a transparent material. However, the material at which the supporting member is made from is a matter of design choice. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to make the supporting member in the device of Dambach et al. transparent as desired.

Response to Arguments

10. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

Further, regarding claims 5-17 and 19-21, Welber et al. do teach stops. As seen in Figure 3, the two arms (66 and 68) and the slide are limited in movement by the encasement of housing (50) in its second position. In addition in the first position where the fiber is free to move, the notch is coaxial with the hole since in its second position, the notch is off-centered from the hole. Thus, the rejection set forth above is proper.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seungsook Ham, can be reached on (703) 308-4090. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
November 13, 2001


Que T. Le
Primary Examiner